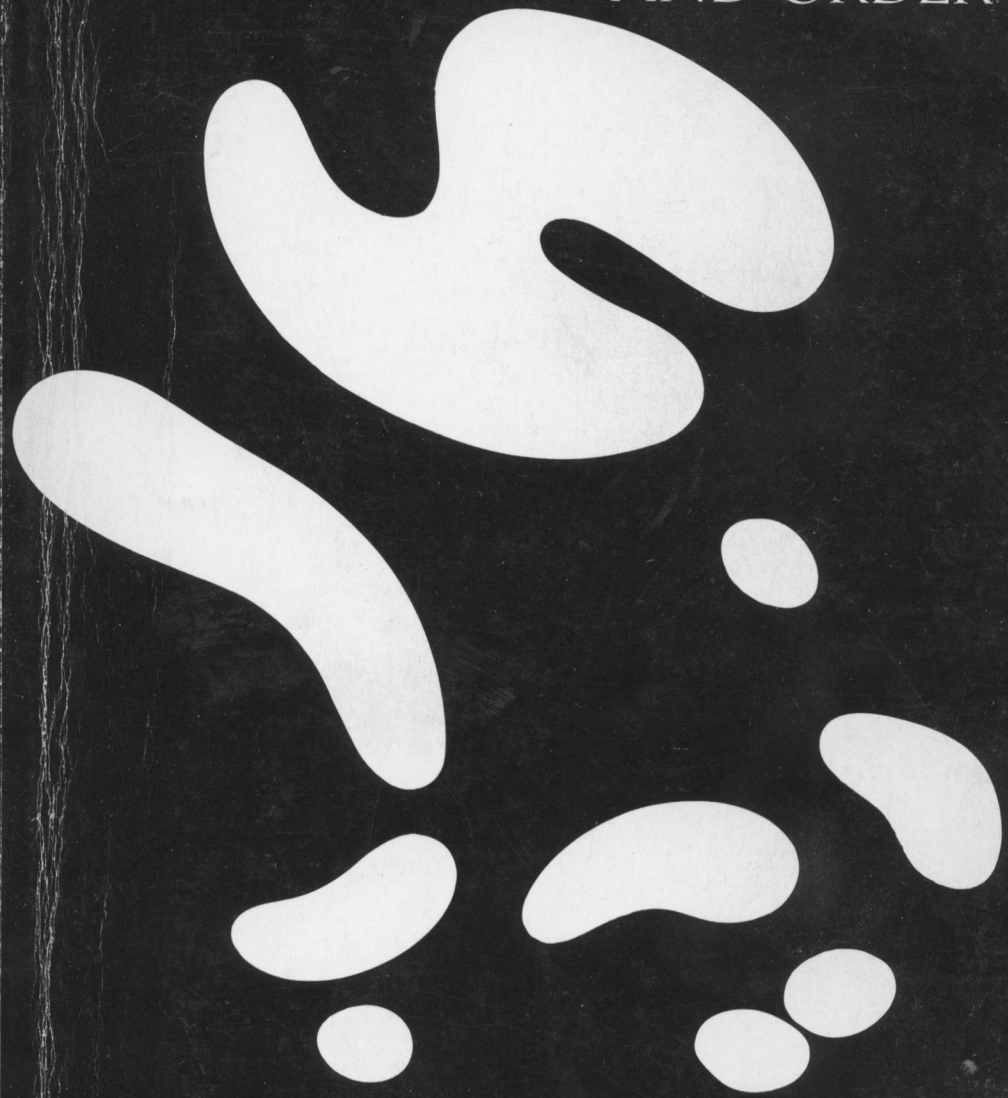
ENTROPY AND ART

AN ESSAY ON DISORDER AND ORDER



RUDOLF ARNHEIM

Plate 5. The Madonna of Würzburg. Photo Zwicker, Würzburg.

BIBLIOGRAPHY

1 Adams, Henry. The degradation of the democratic dogma. New York: Peter Smith, 1949.

2 Allen, Grant. Physiological aesthetics. New York: Appleton, 1877.

3 Angrist, Stanley W. and Loren G. Hepler. Order and chaos: Laws of energy and entropy. New York: Basic Books, 1967.

4 Arnheim, Rudolf. Accident and the necessity of art. *In* Arnheim (8) pp. 162–180.

5 Arnheim, Rudolf. Art and visual perception. Berkeley and Los Angeles: Univ. of California Press, 1969.

6 Arnheim, Rudolf. The critic and the visual arts. Fifty-second Biennial Convention of the American Federation of Arts in Boston. New York: AFA, 1965.

7 Arnheim, Rudolf. Order and complexity in landscape design. *In* Arnheim (8) pp. 123–135.

8 Arnheim, Rudolf. Toward a psychology of art. Berkeley and Los Angeles: Univ. of California Press, 1966.

9 Arp, Jean. On my way. Poetry and essays 1912–1947. New York: Wittenborn, Schultz, 1948.

10 Baer, Karl Ernst von. Ueber Entwicklungsgeschichte der Tiere: Betrachtung und Reflexion. Königsberg: Borntträger, 1828.

11 Beardsley, Monroe C. Order and disorder in art. *In* Kuntz (43) pp. 191–218.

12 Bernfeld, Siegfried. Die Gestalttheorie. Imago 1934, vol. 20, pp. 32–77.

13 Birkhoff, George D. Aesthetic measure. Cambridge, Mass.: Harvard Univ. Press, 1933.

14 Boltzmann, Ludwig. Weitere Studien über das Wärmegleichgewicht unter Gasmolekülen. Sitzungsber. d. kö-

nigl. Akad. d. Wiss., Vienna: 1872. *Reprinted in* Boltzmann: Wissenschaftliche Abhandlungen. Leipzig: Barth, 1909, vol. 1.
15 Bork, Alfred M. Randomness and the 20th century. Antioch Review, 1967, vol. 27, pp. 40–61.
16 Bragg, Sir William. Concerning the nature of things. New York: Dover, 1948.
17 Brush, Stephen G. Thermodynamics and history. Graduate Journal 1967, vol. 7, pp. 477–565.
18 Butor, Michel. Répertoire III. Paris: Editions de Minuit, 1968.
19 Cage, John. A year from Monday. Middletown: Wesleyan Univ. Press, 1969.
20 Cannon, Walter B. The wisdom of the body. New York: Norton, 1963.
21 Chipp, Herschel B. (ed.). Theories of modern art. Berkeley and Los Angeles: Univ. of California Press, 1968.
22 Dellas, Marie and Eugene L. Gaier. Identification of creativity. Psychol. Bull. 1970, vol. 73, pp. 55–73.
23 Eddington, Sir Arthur. The nature of the physical world. Ann Arbor: Univ. of Michigan Press, 1963.
24 Eysenck, H. J. The experimental study of the "good gestalt" —a new approach. Psychol. Review 1942, vol. 49, pp. 344–364.
25 Fechner, Gustav Theodor. Einige Ideen zur Schöpfungs– und Entwicklungsgeschichte der Organismen. Leipzig: Breitkopf & Härtel, 1873.
26 Fee, Jerome. Maupertuis and the principle of least action. Scient. Monthly, June 1941, vol. 52, pp. 496–503.
27 Flugel, J. C. Studies in feeling and desire. London: Duckworth, 1955.
28 Frank, Helmar. Zur Mathematisierbarkeit des Ordnungsbegriffs. Grundlagenstudien aus Kybernetik und Geisteswissenschaft, vol. 2, 1961.
29 Freud, Sigmund. Abriss der Psychoanalyse. *In* Schriften aus dem Nachlass, 1892–1938. London: Imago, 1941. (Outline of psychoanalysis. New York: Norton, 1945.)
30 Freud, Sigmund. Neue Folge der Vorlesungen zur Einführung in die Psychoanalyse. Vienna: Intern. Psychoanal. Verlag, 1933. (New introductory lectures on psychoanalysis. New York: Norton, 1965.)
31 Freud, Sigmund. Jenseits des Lustprinzips. Leipzig: Intern. Psychoanal. Verlag, 1923. (Beyond the pleasure principle. New York: Liveright, 1961.)
32 Gombrich, E. H. Psychoanalysis and the history of art. Intern. Journal of Psycho-analysis, 1954, vol. 35, pp. 1–11.
33 Heisenberg, Werner. Das Naturbild der heutigen Physik. Hamburg: Rowohlt, 1955.
34 Hiebert, Erwin N. The uses and abuses of thermodynamics in religion. Daedalus, Fall 1966, pp. 1046–1080.
35 Jones, Ernest. The life and work of Sigmund Freud. New York: Basic Books, 1957.
36 Kepes, Gyorgy (ed.). Structure in art and science. New York: Braziller, 1965.
37 Kiemle, Manfred. Aesthetische Probleme der Architektur unter dem Aspekt der Informationsästhetik. Quickborn: Schnelle, 1967.
38 Köhler, Wolfgang. Zur Boltzmannschen Theorie des zweiten Hauptsatzes. Erkenntnis 1932, vol. 2, pp. 336–353.
39 Köhler, Wolfgang. On the nature of associations. Proc. Amer. Philos. Soc., June 1941, vol. 84, pp. 489–502.
40 Köhler, Wolfgang. Die physischen Gestalten in Ruhe und im stationären Zustand. Braunschweig: Vieweg, 1920.
41 Köhler, Wolfgang. The place of value in a world of facts. New York and Toronto: New Amer. Library, 1966.
42 Kostelanetz, Richard. Inferential art. Columbia Forum, Summer 1969, vol. 12, pp. 19–26.
43 Kuntz, Paul G. (ed.). The concept of order. Seattle and London: Univ. of Washington Press, 1968.
44 Laing, R. D. The divided self. Baltimore: Penguin, 1965.
45 Landsberg, P. T. Entropy and the unity of knowledge. Cardiff: Univ. of Wales Press, 1961.
46 Lewis, Gilbert Newton and Merle Randall. Thermodynamics and the free energy of chemical substances. New York: McGraw-Hill, 1923.
47 Lovejoy, Arthur O. The great chain of being. New York: Harper and Row, 1960.
48 Meyer, Leonard B. Music, the arts, and ideas. Chicago and London: Univ. of Chicago Press, 1967.

49 Moles, Abraham. Information theory and esthetic perception. Urbana and London: Univ. of Illinois Press, 1966.
50 Morel, Bénédict Auguste. Traité des dégénérescences physiques, intellectuelles et morales de l'espèce humaine, etc. Paris and New York: Baillière, 1857.
51 Nordau, Max. Entartung. Berlin: Duncker, 1893. (Degeneration. New York: Appleton, 1895.)
52 Nouy, Pierre Lecomte du. L'homme et sa destinée. Paris: Colombe, 1948. (Human destiny. New York: Longmans, Green, 1947.)
53 Panofsky, Erwin. Galileo as a critic of the arts. The Hague: Nijhoff, 1954.
54 Pascal, Blaise. Pensées. Montréal: Editions Variétés, 1944.
55 Planck, Max. Eight lectures on theoretical physics. New York: Columbia, 1915.
56 Planck, Max. Einführung in die Theorie der Wärme. Leipzig: Hirzel, 1930.
57 Planck, Max. Die Einheit des physikalischen Weltbildes. *In* Planck (58) pp. 28–51.
58 Planck, Max. Vorträge und Erinnerungen. Darmstadt: Wissensch. Buchgemeinschaft, 1969.
59 Portmann, Adolf. Die Tiergestalt. Freiburg: Herder, 1965.
60 Riesman, David. The themes of work and play in the structure of Freud's thought. *In* Riesman: Individualism reconsidered. Glencoe: Free Press, 1954.
61 Schrödinger, Erwin. What is life? Cambridge and New York: Cambridge Univ. Press, 1945.
62 Smith, Cyril Stanley. Matter versus materials: a historical view. Science, Nov. 8, 1968, vol. 162, pp. 637–644.
63 Spencer, Herbert. First principles. New York: Crowell, n.d.
64 Spencer, Herbert. Principles of psychology. New York: Appleton, 1878.
65 Thomson, Joseph John. The corpuscular theory of matter. New York: Scribner, 1907.
66 Tyndall, John. Heat—a mode of motion. New York: Appleton, 1883.
67 Weber, Christian O. Homeostasis and servo-mechanisms for what? Psychol. Review 1949, vol. 56, pp. 234–239.

68 Weisstein, Naomi. What the frog's eye tells the human brain: single cell analyzers in the human visual system. Psychol. Review 1969, vol. 72, pp. 157–176.
69 Whyte, Lancelot Law (ed.). Aspects of form. London: Lund Humphries, 1968.
70 Whyte, Lancelot Law. Atomism, structure, and form. *In* Kepes (36) pp. 20–28.
71 Wiener, Norbert. The human use of human beings. Boston: Houghton Mifflin, 1950.
72 Zipf, George Kingsley. Human behavior and the principle of least effort. Cambridge, Mass.: Addison-Wesley, 1949.
73 Zöllner, Johann Karl Friedrich. Ueber die Natur der Cometen: Beiträge zur Geschichte und Theorie der Erkenntnis. Leipzig: Engelmann, 1872.